

Graphs and Algorithms

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Graph theory is a young and exciting area of discrete mathematics. Visually, a graph is just a collection of dots together with lines joining certain pairs of these dots. Though at first glance graphs may seem like simple objects to study, the field of graph theory contains some of the deepest and most beautiful mathematics of the last fifty years. Being an extremely visual field, many questions and problems in graph theory are easily stated, yet have complex solutions with far reaching implications and applications. In this talk, we will explore the close relationship shared between graphs and algorithms. Describing how certain families of graphs “look” and can be “built,” and how, in turn, this allows one to efficiently solve certain important combinatorial problems.